

A set of well filled book shelves; while the inventory of
the Yorkshire Mining shows that the family will not
starve for a day or two at any rate. It often happens that
the father pays into a building society until the house
he lives in becomes his own.

Bradford has not a very interesting history. During
the Civil War (1642-1649) Bradford was on the side of
the Parliament. The Royalist forces under the Earl of
Newcastle collected the towns, when the parish church was
used as an hospital for the wounded, the townsmen
holding on the expedient of trapping wolf packs
round the towers to receive the shot of the enemy.
Yorkshire was, for the most part, on the King's side,
but the two Fairfaxs, Lord Fairfax & his son, Sir
Thomas, who belonged to an ancient Yorkshire
family, fought valiantly against the royal forces and
the command of the Earl of Newcastle. Sir Thomas
Fairfax has left an account of the actions in
which he & his father were engaged, containing
interesting particulars with regard to the towns of
Leeds & Bradford. Thus, for instance, "the Earl
of Newcastle needed not to raise batteries (about
Bradford), for the hills commanded all the town";
how amongst the prisoners was "one wife; the
wheels behind whom the rods being taken; how,
"my daughter, not being above five years old, being
carried before her maid, endured all this relief
on horseback." - (20 hours, to Selby, for Hull) &c. &c.

Close to Bradford as almost upon park
of the town, are the Low Moor Ironworks, known all
over the world for the great strength & stoutness
of the iron goods produced in them - iron plates
bars, rails for railway lines - the best in
the world, which are sent to America, Egypt, India
Russia.

Passaic; whereas the sturpiest iron-works are wanted
the Low Moor brand is known. By night the foundry
is to be seen from afar by the light of the huge black
furnaces blazing away like small volcanoes. To
reach the works, you cross a wilderness - of barren
cinder 'slag', the refuse of the furnaces, which,
for nearly a century, has been collecting in
hillochs over the place. These great-iron-works,
which employ some 4,000 men, rest upon the
North-west corner of the coalfield, where there is much
ironstone lying in seams, sometimes a few
inches thick, sometimes several feet.

The interesting little townships of Saltaire lies within
two miles of Bradford: everyone knows its history,
the tale, related by Dickens, of how a certain
Yorkshire manufacturer, with little money to spare,
sent his sons to Liverpool to buy wool. Now, at that time
they lay in the yards of a Liverpool merchant - many
odd little bales of "queer looking stuff" which no one
would buy. People came & turned it over & left it
where it was, & the merchant did not know what to do
with the 'weird stuff' which had been sent to him
from South America. Now, by a happy chance, the
young Yorkshireman turned into this merchant's
yard, pulled out - a handful from the open corners of
a bale, "felt at it, smelt at it, did everything but
taste it," & carried away a sample in his pocket, -
to return very soon with up every bale of the useless
stuff. Rightly, people heard of a new material,
called alpaca, a shiny, silky, cool stuff, most
pleasant for summer wear. This was what Mr. Lister
had made of the odd looking dirty wool he had
picked up in that Liverpool yard. It was the soft fine
silky wool - brown, white, or black - of the alpaca, a beautiful

the Wolds are almost destitute of trees. The few
miles of chalk coast - is greatly worn by the action
of the waves with crag & rocks & numerous caves.
The few streams of the Wolds are fed by intermittent
springs, like the Levants (Relavants) of the South
Downs: here, they are called "pippies" (hardy). Flint
chalk itself is the minerals proper to the chalk.
The chalk crevices are filled with the chalk crevices

Holmness, which lies without the Chalk Creek
we have spoken of, stretching from Flarvato's Head
to Beverley from Beverley to Hull, has also an
interesting geological history. ~~It~~ ^{It} is covered
with boulder clay ~~which is~~ ^{hard & dark} full of fragments
of ~~glacial~~ ^{glacial} ~~material~~ ^{material} found in situ in Norway. Scotland &
northern England. Geologists are agreed that this
boulder clay marks that is called the glacial
epoch; that ~~the~~ ^{certain} irregularities in the boulder clay
are due to the fact that northern England was
at two different periods, as completely under
an ice covering as is Greenland at the present
day. But the boulder clay is overlaid by
alluvial deposits - peat - sand, &c. there are also
not merely ~~the~~ ^{glacial} ~~deposits~~ ^{of} ~~glaciers~~ ^{glaciers}, but to the
sifting up of rings of moor which originally
bordered the coast. Of these, Hornsea River is the
only one still in evidence as a shallow lake. Though
it is low, Holderness is not a level country, except
to the south, where there is a good deal of grass. Land
reclaimed from the sea. The structural
history of this district is not confined to the past.
From Bridlington to Spurn Head the land is
receding before the sea at the rate of two yards
a year. That is, a strip some six feet wide is
carried away from the coast annually. Even

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villages. Churches, gran. parts, have been carried away
bit-by-bit; & Kanagawa, once perhaps a considerable
port - where Henry of Richmond landed has been
lost - hardly, leaving no trace of its whereabouts
beyond a surmise that it - stood somewhere
near Spurn Point. Spurn Point itself, &
the Bents as the ridge is called which connects
it with the mainland, is narrower than a sandbar,
but within the Point, new lands are being
laid down formed of the material which the
sea has just stripped from the coast - together
with the mud brought down by the river. The
wide mud flats thus laid down are of great
interest as showing fluvial land in the very
process of making.

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up under glacial influences, & these, post-~~strain~~
acting on the softer parts of the rock in the exposed
boulders have produced other strange forms.

Three centuries ago, a discovery was made
in Kilderdal which drew people in great numbers
to it - was then a black common: above Kerragels
Spring, the oldest & still, the most fashionable
inland watering place of the north. In 1596, the first
Spa was discovered by Sir William Strickley, who
had travelled much in Germany & was familiar
with the virtues of these continental Spas. Now there
being such springs as now known, all more or
less tinged with iron or sulphur. The waters
of the Chalybeate springs are bracing, those of the
sulphur springs are valuable in mercurial disorder
in cases of indigestion. Kerragels has its pump
room, promenade, gardens, &c., the usual attractions
of a watering place. But its greatest attraction is the
fine, pure moorland air & scenery.

On the opposite bank of the Ridd, ~~which~~ here is a
broad full river, rises the ruined towers of
Kneresborough Castle, standing on a high cliff
overhanging the river, overlooking the town of
Kneresborough which is now beautifully placed
than any town of Yorkshire excepting Richmond.
In ^{a dungeon of} this castle, the murderers of Becket remained
in hiding for a year after the commission
of their crime: in the 'King's Chamber', Richard III.
was confined, before he was taken to Pontefract.
During the Civil War the Castle sustained
a siege from the Parliamentary forces under Lilburne.
Kneresborough was one of the most important corn
markets in the county. The Rev. J. Giles, on the
bank of the Ridd here, has a two fold interest, first

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in the dwelling of the holy hermit St. Robert, bottomless well
King John was constrained both to honour, & to hate
& less pleasant interest as to scene of the murder
committed by Eugene Aram.

Wharfedale.

Of the three fair sister valleys which form the Leaning
of Heaven - the upper valleys of the Aire, the Ribbles, & the
Wharfe - Wharfedale is by far the loveliest. It is the
most secluded, but for the railway and at Ilkley
you may walk the highways for half a day in the
upper valley without meeting a second passenger.
Anglers, indeed, find their way up, & stop at the village
inns, for the river is famous for its trout. The
general credit of Wharfedale suffers from the very fact
that it contains Bolton Woods, as lovely a spot as
there is in the country; but the whole of the upper valley
is park-like; everywhere is a broad bottom of lawn-
like pasture finely sprinkled with trees - ash,
oak, & yew, for the most part. Through such
the Wharfe winds between wooded banks, &, here &
there, the fells draw up to the river's brink, now
on this side, now on that. Buckram forest patches
stretch all along these fells, creeping now & then
into the ^{bottom} valley, the remains of a forest which
once covered the whole upper valley. & in the
clearing, or green stretches of 'high pastures';
while, above the lower fells, from the dark rim
of the great moors. Below Ilkley, you come
upon the inevitable mill chimney of the Great
Fishing, but, above that charming watering place,
the river

a complete river system, a main stream with many
 affluent discharging almost the whole drainage of the
 country into a single noble estuary. & all this, within
 the limits of Yorkshire itself. It would be easy to
 show that civilisation has followed the courses of
 the rivers, that in their valleys, we find the great
 religious houses, the centres of medieval civilisation.
 & in their valleys, or the great industrial centres
 of today. Nor is this all. It is not too much to
 say that its rivers have made Yorkshire; that they
 have scooped out the habitable places of the earth, &
 then have spread them with alluvial soil, able to
 bear forth for man & beast. This is true with limitation
 of the great central valley; no doubt there was low land
 there before the rivers began to flow - a wide plain, if
 not a valley: but of the beautiful dales of the West &
 North Ridings, we may believe that the rivers have
 carved them out as truly as that they have con-
 bellied them. Of these, as of other river valleys,
 the words of Ruskin might be received; "that, in point
 of fact, the present rivers have gradually scooped out
 their own channels. & that our river valleys are,
 mainly, the result of work performed by rain, rivers,
 & similar agents of denudation."

Yorkshire people rejoice in the fact - that no English
 county presents greater varieties of picturesque land-
 scape than their own. Now 'picturesqueness' is commonly
 the result of the juxtaposition of the elements which
 the eye loves; & in Yorkshire, such juxtaposition
 is of continual occurrence: every brown bare
 moor abuts on a smiling valley; the softness of
 the valley is broken up by a limestone scar, forbidding
 as a general keep. It is a case of. What's bred in the
 bone must out in the flesh; the character of the
 landscape depends upon the nature of the surface
 rocks; the variety of the landscape, upon the fact
 that very various strata come to the surface. Therefore

it is impossible to get a lucid idea of the geography of Yorkshire without some knowledge of its geology, & it is only as we know something of the structure of its several rocks, & of their behaviour under atmospheric influences, that we have any explanation to give of the distinctive features of Yorkshire - fells & fens, caverns, cone & scar.

Perhaps nowhere in the world is the geological history of a region more clearly marked than in Yorkshire: - First, in order of time, & highest in elevation, we have the Western Moors, the Pennine Chain of the fens, & a more or less mountainous belt some ninety miles in length, with an average breadth of thirty miles. Here appears the patriarchs of Yorkshire rocks - the Silurian & Carboniferous Chalk.

Then, stretching through nearly the whole length of the county, but with a breadth no more than four or five miles, we have a band of Permian rocks.

Next succeeds the broad Vale of York, where the original rocks (of the Lias Series) are overlain with the deposits of the rivers - mud, peat, sand, silt, gravel, clay - that it is these which give character to the landscape, the whole plain is an alluvial valley.

Between the bands of distinctive strata have occupied the whole length of the county from north to south, but eastern Yorkshire did not appear all at once under the same conditions, traversing the county from Redcar to Green Head, & you pass through four regions, with widely different landscapes, marking widely different geological conditions.

Now, following still the order of time, beginning at the north, we have first: the North-eastern Moorlands, with vegetation not unlike that of the Western Moors, though supported on rocks of far more recent origin. Going south, we cross the Vale of Pickering, & beyond that, its surface rock being boulder clay of glacial origin. Next succeeds the chalk of the Wolds, & lastly, Holderness, consisting of recent deposits, the debris of the sea of the county.

Continuity in the landscape. Therefore, the agricultural
 manufacturing industries of a district connected
 with its geological formation, that Yorkshire may be
 roughly parcelled out into some six or seven series
 of landscapes corresponding with the geological divisions
 we have indicated.

The Silurian rocks, infinitely the oldest - series which
 Yorkshire exhibits, appears in one or two places only. You
 are surprised to come upon quarries of bluish-green
 slate in the neighbourhood of Threlkirk, & again, to the
 north of Sedburgh, the same hard rocks appear.

The Mountains - or Carboniferous - Limestones form a distinct
 & singularly beautiful & peculiar character in the north-west
 of the country. The levels, wide, sharp, air. The hills have
 all cut much of their upper valleys out of the solid
 limestone, which upper courses give opportunity to study
 the characteristics of limestone country. Upper
 Wharfedale, from below is, perhaps, the most beautiful
 & the most characteristic of these valleys. Like the Lees.

The Wharfe is -

"Condemned to mine a channelled way
 through the solid sheets of marble grey," -
 & the clear brown waters, (brown from the peat-mosses
 where they rise) courses through a clean swept channel
 paved with grey slabs. Every now & then, boulders break
 the current & bring the waters into play, where, the pale
 hue of the rock is set off by dark drapings of the richest mosses.
 Alders hang over the stream; a little higher, are hazel
 thickets with birch & rowan; & in the woods skirting
 the limestone hills above, the cold grey-green of the
 ash is the prevailing tint. A special feature of the
 limestone country is the lovely lawn-like meadows
 & pastures which fill the lower valleys; for it is the
 property of the limestone to bear a close short, vividly
 green turf. The flowers are very abundant & closely -
 the handsome purple red valerian, meadow carnage,
 rock cistus, several species of forget-me-not, yellow pansy,
 & many more. The beauty & variety of the mosses, lichens
 & ferns, is another feature of the limestone country, again
 many fine & in natural ferneries between the limestone
 clads

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clash on many a hill-top. The limestone polypots, the green spleenwort, the black maiden-hair spleenwort, the scale fern, the common harts tongue; in fact, all the ferns proper to the limestone, - very abundant & beautiful, & every plant perfect & delicate in how acid & cold & windy places.

The great thickness of limestone which overlies this part of Yorkshire is not to be thought of as one solid rock: on the contrary, it consists of an infinite number of layers of varying hardness; here, a rock close & solid as marble, & lying another of loose coarse texture. Now, rain & dew, snow & hail, atmospheric moisture in sheltered spots, is laden with carbonic acid, derived from the air itself, or from decaying vegetable matter: & water containing carbonic acid in solution has the property of actually dissolving the limestone - not merely wearing it away. How the carbonic acid acts is open to discussion; but the fact remains, & does much to account for the scars, the caves, the pot-holes, the underground streams, the fantastic rock forms of this district. Add to this, the common effect of weathering upon rocks of unequal hardness throughout; how the water percolates the softer, looser strata, freezes, thaws, swells, bursts the rock that holds it as it might burst a pipe, leaves a piece exposed to the further action of the atmosphere, which is for ever wearing away, as well as dissolving, & yielding directions most of.

This is the history of the fine scars, which stand like many fortresses up & down the Wharfe valley. Drifting water has found its way through the loose joints, carbonic acid in solution has eaten out a way through denser layers, debris, broken off by the one cause or the other, has fallen to the base of the cliff, until there it stands, a rounded bare face of limestone, with harder layers standing out like courses of heavy masonry, deep as the walls of a castle.